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beetles which, when climatic conditions are just right, fly, or are carried by the wind up to the summits where they are found in the buildings or under whatever shelter offers at the top.

While I have not personally been successful in collecting in the merely temporary rain pools on the summit of Mt. Washington, presumably because it is too late, in September when I have been there, to expect these insect flights, Mrs. Slosson and others have taken many species of Dytiscidæ in them.

But the various "lakes" of the 5,000 foot level along the Presidential Range,—the Lakes of the Clouds on Mt. Washington; Starr Lake, smaller and more shallow in the col between Mt. Adams and Mt. Madison; Storm Lake, a mere puddle in the rocks on Mt. Adams; Peabody Spring, close to Storm Lake; and Spaulding's Spring on the side of Mt. Jefferson,—have never failed me, however cold or disagreeable the weather, and collecting in this region, with its rich yield of interesting species and with such a glorious setting of natural scenery on all sides, seems to me to be just about ideal.

ENVIRONMENT OF HYDROPHIDÆ.

BY FRED. WINTERSTEINER,

LONG ISLAND CITY.

While all Hydrophilidæ except the sub-family Sphæridiini (which live on decaying plants or manure) are aquatic, swimming ability is found only in the genera *Hydrous, Tropisternus, Hydrophilus* and *Berosus,* the others crawling on submerged vegetation or clinging to various submerged objects. They exhibit a uniform dull coloration varying from piceous to testaceous, with very few exceptions, as in *Hydrobius tesselatus* and certain species of *Tropisternus* and *Berosus,* or in the dull cuprous tinge of some Helephorini. The underside of the last named is provided with a pubescence, retaining air which modifies their specific gravity and causes them to float to the surface, ventral side upwards, when the vegetation to which they cling is sufficiently disturbed to break their hold. According to European authors eggs are laid in cocoons, which in *Hydrous* and *Hydrophilus* float freely on the surface of the water, while in *Hydrobius*

and *Philhydrus* they are attached to plants and in *Helochares* are carried on the abdomen until hatched. The cocoons are formed by the secretions of two glands discovered by Stein.

Differences in color in *Helophorus* may be caused by the surroundings; darker specimens are found late in the fall by sifting and collecting in the woods, while lighter ones occur more in the open field. The species prefer sandy shores of slow running water, but are also found in stagnant water.

I was fortunate enough to capture one specimen of *Ochthebius foveicollis* Lec. for the first time in New Jersey by sweeping in clear stagnant water on *Myriophyllum*. Most of the species are Pacific and are said to prefer clear, running, shallow water, in which they may be found adhering to the underside of stones, preferably those partly out of water. Frequently they are found in small colonies.

The species of *Hydræna* are found here in stagnant water, but in California are said to occur in clear brook water, not under stones but in sand.

THE RELATION OF MOSQUITOES TO THEIR ENVIRONMENT.

BY JOHN A. GROSSBECK,

NEW YORK, N. Y.

So far as known all mosquitoes are aquatic in their larval and pupal stages. Only a comparatively few, however, are able to exist for an indefinite period beneath the surface of the water, nearly all being forced to rise periodically to the top for a supply of oxygen. For this purpose a tube of varying length, according to the species, has been developed in the larva, and a pair of them, differently placed however, in the pupa. These tubes are in nearly all species thrust through the surface film and oxygen is obtained by direct contact with the outer air. In a few species, only one of which is found in the vicinity of New York, these tubes have become modified for a wholly underwater life. In these the tubes are so constructed that their tips may be inserted into the roots of plants and air obtained from or through the plants. In addition to the tube the larva is provided with four tracheal gills situated at the anal end of the body, and in a very